

# Missouri Diabetes Report

# 2021

---

Report to the General Assembly on diabetes-related efforts in the Missouri  
HealthNet Division and the Missouri Department of Health and Senior Services.

RSMo 191.990



## Part I. Burden of Diabetes in Missouri

It is estimated that nearly 516,000 adult Missourians had doctor-diagnosed diabetes in 2020, with a prevalence of 10.8% (Table 1), slightly lower than the national median prevalence of 10.9%<sup>1</sup>. In Missouri, the prevalence of diagnosed diabetes increased with age, but rates were not significantly different between sex or race. Adults living in households with a combined income under \$25,000 had a higher prevalence than those with a household income of \$50,000 or greater. Additionally, the prevalence among adults who reported schooling beyond high school education was significantly lower than those who did not complete high school. The prevalence among uninsured individuals was significantly less than those who were insured. However, this has previously been attributed to the increased likelihood that uninsured individuals are younger and therefore less likely to be diagnosed. Demographic data (Table 1) was collected from individuals who were formally diagnosed with diabetes; however, the 2013-2016 National Health and Nutrition Examination Survey estimated that 4.3% of adults in the United States have undiagnosed diabetes<sup>2</sup>. Assuming the same prevalence in Missouri, it is likely that approximately an additional 200,000 cases are unaccounted for in the current data.

Table 1. Prevalence of Diabetes among Adults age 18 or older, Missouri, 2020

	Number*	Percent (95% CI**)		Number*	Percent (95% CI**)
<b>Overall</b>	<b>721,117</b>	<b>15.1</b>	<b>Household Income (\$)</b>		
Diagnosed	515,766	10.8 (10.0 - 11.6)	<15,000	77,134	19.8 (15.6 - 24.0)
Undiagnosed <sup>#</sup>	205,351	4.3 (5.5 - 5.1)	15,000-24,999	109,310	15.1 (12.5 - 17.7)
<b>Age (years)</b>			25,000-34,999	58,420	12.2 (9.4 - 15.0)
18-24	5,586	1.0 (0.8 - 2.0)	35,000-49,999	82,422	11.4 (9.0 - 13.7)
25-44	60,056	3.8 (2.8 - 4.9)	50,000-74,999	79,079	9.7 (7.7 - 11.7)
45-64	210,084	13.4 (11.9 - 14.9)	≥75,000	111,122	6.8 (5.6 - 8.0)
≥ 65	233,805	22.1 (20.2 - 24.1)	<b>Education</b>		
<b>Race</b>			Less than High School	72,357	15.9 (12.3 - 19.4)
White	394,706	10.6 (9.7 - 11.4)	High School or Equivalent	169,212	11.3 (9.9 - 12.7)
African-American	62,728	12.2 (9.5 - 14.9)	More than High School	263,697	11.2 (8.7 - 10.5)
Other	53,780	10.0 (7.0 - 13.0)	<b>Insurance Status</b>		
<b>Sex</b>			Uninsured	27,770	4.6 (2.8 - 6.4)
Male	269,784	11.7 (10.5 - 12.9)	Insured	475,616	11.7 (10.9 - 12.6)
Female	243,429	9.9 (8.9 - 10.9)			

\*The number of adults in each subcategory may not add up to the total diagnosed number due to rounding and estimation methods.

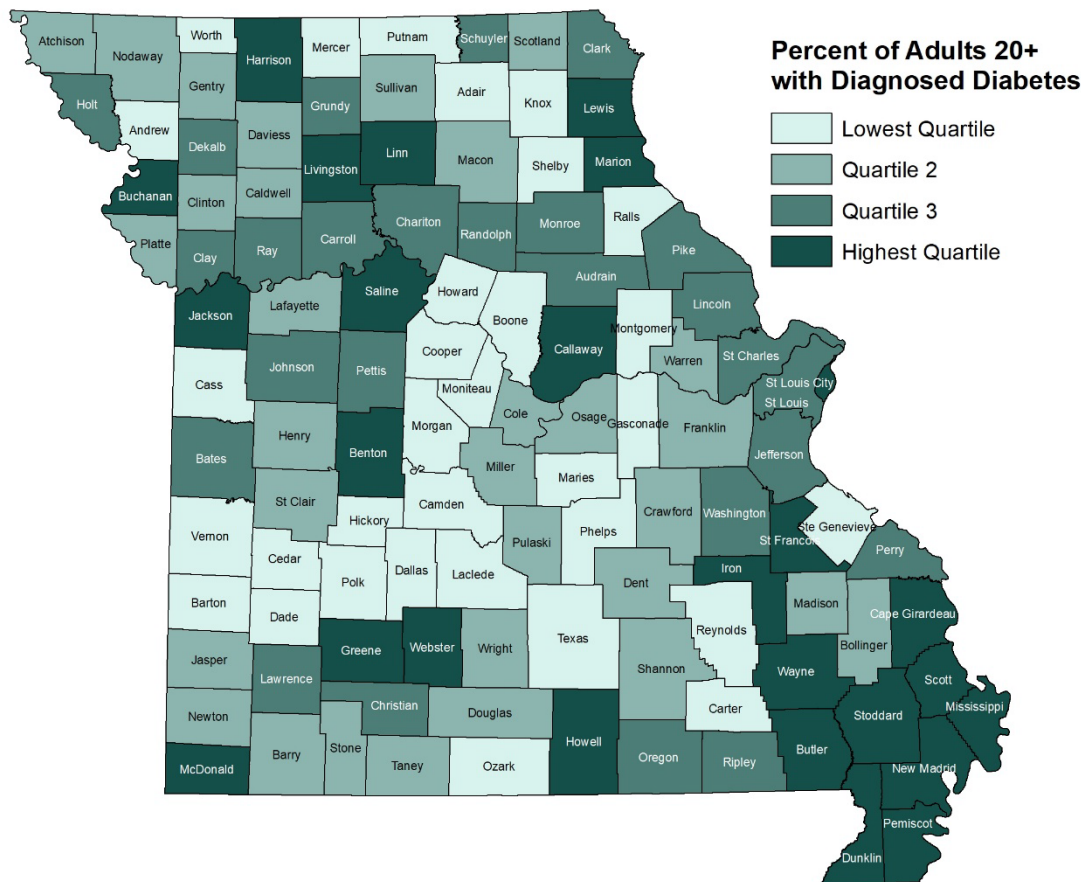
\*\*CI: 95% Confidence interval

<sup>#</sup>Estimated based on the 2013-2016 National Health and Nutrition Examination Survey

Sources: Missouri and National Behavioral Risk Factor Surveillance System (BRFSS), U.S. Census Bureau Population Survey (data.census.gov)

The prevalence of diabetes does vary across the state (Map 1). Prevalence rates were highest in southeast Missouri, especially in the Bootheel region. Rates were lowest in central and west-central Missouri. The core counties of the largest cities in Missouri all had rates in the highest quintile (Jackson and Greene counties and St. Louis City).

Map 1. Prevalence of Diabetes in Missouri Counties, 2019



Source: CDC Behavioral Risk Factor Surveillance System (BRFSS) and the US Census Population Estimates Program, 2019

In 2019, diabetes led to 16,737 emergency room (ER) visits, with an age-adjusted rate of 2.58 visits per 1,000 population. The diabetes ER rate was lowest for those under 15 (0.39) and was highest for the 45-64 year olds (4.33). Both the 45-64 and 65 and over (3.88) groups had significantly higher rates than the state average. There were 15,575 inpatient hospitalizations with diabetes as the primary diagnosis in 2019, for an age-adjusted rate of 23.27 per 10,000 population. The 65 and over population had the highest inpatient hospitalization rate at 42.81 while the 45-64 grouping had the second highest rate at 38.13. Both were significantly higher than the state rate. The 2019 death count for diabetes was 1,652 which ranked as the 7<sup>th</sup> leading cause of death in Missouri. The age adjusted rate was 20.9 per 100,000 population. As with most death age groupings, the 65 and over group had the highest death rate at 111.4 and accounted for over 70% of all diabetes deaths.

African-Americans had statistically significantly higher rates compared to whites for ER visits, inpatient hospitalizations and deaths. For ER and hospitalizations, African-American rates were about 2.5 times higher. For deaths, the rate was not quite double (35.5 versus 19.5).

By gender, rates were statistically significantly higher for males compared to females for both hospitalizations and deaths. The hospitalization rate was 36% higher (27.07 versus 19.86) while the death

rate was 64% higher (26.5 versus 16.1). However, there were no significant differences for ER rates (2.61 versus 2.56). (Table 2)

Table 2. Diabetes Emergency Room Visit, Inpatient Hospitalization, and Death Rates, Missouri 2019										
		Emergency Room Visits			Hospitalization			Death		
		Count	Rate per 1,000	95% CI	Count	Rate per 10,000	95% CI	Count	Rate per 100,000	95% CI
	Total	16,737	2.58	(2.5-2.6)	15,575	23.27	(22.9-23.6)	1,652	20.9	(19.8-21.9)
Age Group	Less than 15	449	0.39	(0.36-0.43)	479	4.21	(3.8-4.6)	#	##	###
	15-24	1,228	1.55	(1.5-1.6)	1,311	16.50	(15.6-17.4)	#	##	###
	25-44	4,175	2.64	(2.6-2.7)	3,261	20.64	(19.9-21.4)	56	3.6	(2.7-4.6)
	45-64	6,764	4.33	(4.2-4.4)	5,963	38.13	(37.2-39.1)	409	26.2	(23.7-28.8)
	65+	4,119	3.88	(3.8-4.0)	4,547	42.81	(41.6-44.1)	1,183	111.4	(105.0-117.7)
Race	White	12,156	2.17	(2.1-2.2)	11,237	19.41	(19.0-19.8)	1,384	19.5	(18.4-20.5)
	African American	3,948	5.42	(5.3-5.6)	3,762	50.73	(49.1-52.3)	242	35.5	(31.2-40.3)
Sex	Male	8,202	2.61	(2.6-2.7)	8,772	27.07	(26.5-27.7)	942	26.5	(24.8-28.2)
	Female	8,533	2.56	(2.5-2.6)	6,789	19.86	(19.4-20.4)	710	16.1	(14.9-17.3)
* Rates were age-adjusted to the 2000 US Standard Population.										
** Some records with missing age information were not used to calculate age adjusted rates, therefore the totals will not exactly match the age breakout categories.										
*** Emergency Room Visit totals had 2 records and Hospitalizations had 14 records with missing demographic information.										
# Number too small to display										
## Rate not calculated due to low count/unstable rate.										

Data Source: Missouri Information for Community Assessment (MICA), and Missouri Department of Health and Senior Services Bureau of Health Care and Data Dissemination

In 2017, the American Diabetes Association (ADA) estimated that together the direct medical cost and indirect cost of diabetes was \$6.7 billion in Missouri.<sup>3</sup> However, the ADA also estimates that many diabetes management and prevention strategies continue to be highly cost effective. For people with type 2 diabetes, self-monitoring blood sugar three times a day only costs around \$3,700 per Quality-Adjusted Life Year (QALY) compared to self-monitoring once a day. Diabetes Self-Management Education Support (DSMES) was also found to be very cost-effective at \$5,047 per QALY compared to usual care.<sup>4</sup> In addition, most type 2 diabetes prevention interventions that were included in a 2020 review were found to be either cost-effective or cost-saving.<sup>5</sup>

For additional detailed diabetes data on risk factors, complications, preventive care practices, gestational diabetes, and other information, please visit the Missouri Diabetes Profile at <https://healthapps.dhss.mo.gov/MoPhims/ProfileBuilder?pc=7>.

## Part II: Current Programs

### 1. Current Diabetes Programs at MO HealthNet Division (MHD):

#### a. Primary Care Health Home (PCHH) Program

Missouri's Primary Care Health Home State Plan Amendment was formally approved December 23, 2011. Services began January 1, 2012. In July 2011, Department of Social Services, MO HealthNet Division (MHD) solicited applications from primary care providers interested in participating in the PCHH initiative. The PCHH program began with a total of 24 primary care health home organizations operating health homes in 86 sites throughout Missouri. After three additional open enrollment periods, there are currently 43 PCHH provider organizations with a total of 195 clinic sites providing health home services to more than 36,000 individuals.

The populations eligible for the PCHH Program originally included those with two or more chronic conditions or one chronic condition and a risk factor for a second. Patients with diabetes are considered to have one chronic condition and be at risk for a second. The eligibility criteria has since been updated to include pediatric asthma and obesity (in order to prevent full-blown type 2 diabetes) as stand-alone conditions. Anxiety, depression, chronic pain and substance use disorder have all been added as conditions that require a second qualifying condition or risk factor for enrollment.

Current enrollment in the PCHH exceeds 36,000 and has been steadily increasing. An average of 43% of all people enrolled have a diagnosis of diabetes and 47% of all participants are considered obese based on their height and weight. The nurse care managers work with each participant to create an individualized patient-driven care plan that includes small steps to achieve attainable goals. This program first addresses the social determinants of health and the patients' overall well-being to manage stress and other challenges. According to Healthy People 2030, "social determinants of health (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. They can be grouped into 5 domains: economic stability, education access and quality, health care access and quality, neighborhood and build environment, and social and community context."<sup>6</sup>

Yearly, the health home staff receive supplementary funding to contribute to essential educational items that participants may not be able to afford on their own. Items purchased include large blood pressure cuffs, low-carbohydrate food pantry items, daily pill boxes, dental kits, diabetes foot care kits, diabetes meal planner plates, glucometers, health alert bracelets, lancets, measuring cups, pedometers, scales, test strips, and extra wound care dressings. The additional funding is often also used to allow for extra educational time with a Registered Dietician, Pharmacist, or a Community Health Worker (CHW) that works closely with participants and their caregivers in their homes with medication support, meal planning, and hands-on cooking lessons.

Those with high blood glucose levels are encouraged to call the nurse care manager daily with their readings and meet with their provider monthly until their levels improve. Care Manager Registered Nurses send achievement certificates when participants meet their

individualized goals, successfully managing their diabetes. Nurses keep participants engaged and motivated by trying innovations such as Facebook Live Cooking Shows, Zumba and Tai Chi classes, and providing fresh fruits, herbs, and vegetables through gardens or onsite pantries.

Clinical outcomes achieved thus far include, but are not limited to, clinically significant improvements in LDL levels, blood pressure, and Hemoglobin A1c (HbA1c) levels. The decreases in LDL translate to a 20% decrease in coronary heart disease; the decreases in blood pressure translate to a 16% decrease in coronary heart disease and a 42% decrease in stroke; and the decreases in HbA1c translate to a 21% decrease in diabetes mellitus related deaths, a 14% decrease in myocardial infarction, and a 37% decrease in microvascular complications respectively in the impacted population<sup>7</sup>. In 2019, of the people with a first reading of HbA1c greater than nine (the blood level that begins to adversely affect multiple vital organs in the human body) 66% of participants saw significant improvement in their HbA1c after 12 months in the PCHH program. The PCHH program has also demonstrated reductions in emergency department use and hospital admissions, as well as shown associated cost savings in hospitalizations and pharmacy waste/use.

The MHD program staff work with the Missouri Primary Care Association's (MPCA) Practice Transformation Coaches to provide multiple trainings throughout the year for health care teams to accelerate positive outcomes for patients with diabetes. Trainings include Trauma-Informed Methods for Primary Care, Motivational Interviewing for Preventative Care, and the 8 Dimensions of Wellness to support all aspects of their patients' lives. The PCHH providers network with other health care teams to improve their own workflows and learn about new and tested diabetes interventions.

MHD also currently provides funding for over 50 CHWs in 28 Community Health Centers (CHCs) across Missouri to assist high risk, medically complex individuals with managing their healthcare and addressing needs related to social determinants of health. The addition of these services came as a result of the CHW pilot in southwest Missouri that showed greater reductions in emergency department visits for individuals enrolled in PCHH who had access to a CHW compared to those that did not (38% decrease compared to 8% decrease). The pilot also showed greater reductions in hospitalizations (16.6% decrease for individuals with a CHW compared to 6% decrease in individuals who did not have access to a CHW).

MHD awarded a grant through MPCA to Great Mines Health Center (GMHC) for a CHW High Utilizer pilot program. GMHC partnered with Washington County Ambulance District (WCAD) and designed their pilot program to avoid unnecessary transports and reduce the number of clients with uncontrolled diabetes. CHWs are working jointly with WCAD to help lower Emergency Department rates, provide resources, and educate the population with uncontrolled diabetes within Washington County. This program allows these chronic care patients to be treated and seen in their homes, allowing better compliance. In home appointments through this partnership are scheduled and tracked through GMHC's Electronic Medical Record (EMR).



**b. Managed Care and Disease Management**

The managed care plans provide care management and/or disease management services to select members as outlined below. Members are evaluated by the health plans to determine eligibility for these services.

Care management services focus on enhancing and coordinating a member's care across an episode or continuum of care; negotiating, procuring, and coordinating services and resources needed by members/families with complex issues; ensuring and facilitating the achievement of quality, clinical, and cost outcomes; intervening at key points for individual members; addressing and resolving patterns of issues that have negative quality cost impact; and creating opportunities and systems to enhance outcomes. The health plans may use Section 2703 designated health home providers or Local Community Care Coordination Program (LCCCP) providers to perform care management functions if the health home practice and LCCCP provider are members of the health plan network.

Disease management involves the intensive management of a particular disease or syndrome. Disease management encompasses all settings of care and places a heavy emphasis on prevention and maintenance. It is similar to care management, but more focused on a defined set of programs relative to an illness or syndrome.<sup>8</sup>

The health plans provide disease management programs for major depression, asthma, and at least one of the following: obesity, diabetes, hypertension, or attention deficit hyperactivity disorder (ADHD). The health plan may use Section 2703 designated health home providers to perform disease management functions if the health home practice is a member of the health plan network.

The health plans also develop and provide a Local Community Care Coordination Program (LCCCP) using a delivery model of choice that provides care management, care coordination, and disease management with a local healthcare provider. All LCCCPs incorporate the following principles: all members will have a selected primary care provider; care is provided by a physician-directed team that collectively cares for the member; care coordination across all aspects of health care; care management services; and recognition and referral to necessary community and social support resources.

In addition to the services listed in the comprehensive benefit package, the health plan provides specified services to children under 21 years of age and pregnant women with Medical Eligibility (ME) codes 18, 43, 44, 45, and 61. This includes diabetes self-management training for persons with gestational, type 1, or type 2 diabetes.

Healthcare Effectiveness Data and Information Set (HEDIS) data for calendar year 2019 for MHD managed care plans show improvement on several measures in comparison to 2017. Specifically, the rate of individuals with diabetes receiving eye exams increased from 42% to 65%, and those with controlled blood pressure rose slightly from 58% to 61%. Other measures were quite stable between the two years, showing little change, including individuals with diabetes who had a HbA1c test (81% in both years), those with their HbA1c levels being under control (40% in 2019 vs. 39% in 2017), and those who received a nephropathy screening (85% in 2019 vs. 86% in 2017). The rate of



individuals with an HbA1c rate that is poorly controlled ( $>9.0$ ) is also essentially unchanged at 51%, in 2019 compared to 52% in 2017.

**c. Home Telemonitoring, Wireless Patient Reminder Services Program, and Medication Therapy Management**

Telemonitoring is a small contracted program for patients who meet specific criteria, including chronic diagnoses such as diabetes, and participants with a history of frequent hospital and/or emergency department visits. The contractor, CoxHealth at Home, supplies in-home monitors that collect patients' vital signs and other clinical information and relays the data electronically to a nursing station for analysis and oversight. If potential problems are detected in values such as those for blood glucose, blood pressure, patient weight, etc., the nursing staff can intervene and/or make a visit to the patient's home. If necessary, the patient will be directed for medical treatment. The goal is to help keep patients out of the hospital and/or emergency department. For state fiscal year 2021 there was an average of 80 participants per month enrolled in the telemonitoring program.

The Wireless Patient Reminder Services Program utilizes PageMinder as a contractor to provide wireless patient reminder notification services to individuals with chronic conditions, including diabetes. Notifications consist of reminders to take medications at scheduled times, to test blood sugar, etc. Goals include helping patients adhere to their treatment regimens so they can avoid unnecessary hospitalizations and emergency department visits. For state fiscal year 2020 there were 538 participants per month enrolled in the Wireless Patient Reminder Services Program.

Medication Therapy Management (MTM) is for pharmacist professional services to educate and counsel patients about potential gaps in treatment. For example, a pharmacist will receive a notification that a patient using his or her pharmacy does not have a claim for an annual foot exam, or perhaps no laboratory claim to indicate that he or she had a regular HbA1c screen. The pharmacist will "reserve" an intervention opportunity and when the patient shows up in the pharmacy, the pharmacist counsels the patient about the need to adhere to evidence-based treatment protocols for their diabetes (among other disease states). The pharmacist must be properly qualified and enrolled to provide and bill MHD for these services.

Below (Table 3) is the MTM report for time period 10/01/20 – 09/30/21. All patients have a diagnosis of diabetes according to paid medical claims history.

**Table 3. Medication Therapy Management (MTM) Usage and Cost Savings, Missouri, 2021**

	Unique Patients with Diabetes	Number of patients with MTM interventions	Number of MTM interventions provided for these 25 patients	Pharmacy savings for these 25 patients (annualized)	Medical savings for these 25 patients (annualized)

MTM Messages	66,866	25	57	-\$10,126	\$124,290
--------------	--------	----	----	-----------	-----------

The MTM program was approved by Centers for Medicare and Medicaid Services (CMS) effective January 1, 2013 and providers continue to enroll in the program to provide interventions.

**d. Pharmacy Benefit**

On April 1, 2020 MHD bought continuous glucose monitors under the pharmacy benefit, allowing participants to receive these devices at the pharmacy with a simple prior authorization. These devices allow participants, and their caregivers, to monitor blood sugar levels without multiple finger sticks. Participants place the device and receive alerts and readings on their smartphone, smart watch, or manufacturer device. Since implementing coverage over 1,700 continuous glucose monitors have been paid for by MHD.

In 2021, MHD purchased tubeless insulin pumps under the pharmacy benefit, allowing participants to receive these devices at the pharmacy with a simple prior authorization. These devices are able to deliver insulin to participants and adjust the dose according to what the participant is doing, allowing them to play basketball, swim, and shower, without having to worry about insulin delivery. Combined with the continuous glucose monitor, participants are able to better control their diabetes, leading to improved long term outcomes. Since implementing coverage over 100 participants are receiving tubeless insulin pumps monthly through MHD.

**e. Biopsychosocial Treatment of Obesity for Youth and Adults**

MHD is implementing coverage for biopsychosocial treatment of obesity for youth and adult participants in 2021. Youth services are available for eligible participants 20 years of age and younger while adult services are available for those 21 years of age and older. These services are consistent with recommendations from the United States Preventive Services Task Force (USPSTF). The goal of these services is to improve health outcomes for youth and adult populations by promoting improvements in weight status and reducing the incidence of comorbid conditions, such as diabetes, by focusing on the integration of medical nutrition therapy and behavioral health counseling services to facilitate behavior changes.

**f. Diabetes Prevention Services**

MHD implemented coverage for Diabetes Prevention Program Services for adult participants on September 1, 2020. Services are available for eligible participants ages 21 and older with the goal of preventing the progression to type 2 diabetes and improve health outcomes for high-risk adults by managing obesity and associated co-morbidities. Services are recommended by a physician and/or other licensed practitioner and focus on structured interventions that include behavioral counseling that concentrates on weight reduction and lifestyle changes. The National Diabetes Prevention Program (National DPP) is one such program.

## 2. Current Diabetes Initiatives at the Department of Health and Senior Services (DHSS):

Missouri's diabetes activities are coordinated at the Missouri Department of Health and Senior Services by the Diabetes and Heart Disease Program, within the Bureau of Cancer and Chronic Disease Control. The majority of funding is provided by the Centers for Disease Control and Prevention (CDC) 1815 Cooperative Agreement: Improving the Health of Americans Through Prevention and Management of Diabetes and Heart Disease and Stroke, as well the CDC 1817 Cooperative Agreement: Diabetes and Heart Disease and Stroke Prevention Programs - Innovative State and Local Public Health Strategies to Prevent and Manage Diabetes and Heart Disease and Stroke.

### a. 1817 Alliance

In late 2018 Missouri received the 1817 Cooperative Agreement Grant - Diabetes and Heart Disease and Stroke Prevention Programs - Innovative State and Local Public Health Strategies to Prevent and Manage Diabetes and Heart Disease and Stroke. An Alliance of partners was created that is led by a collaboration of six public health and medical care organizations, seeking to improve the lives of people living in the St. Louis Metropolitan area, specifically those affected by diabetes and cardiovascular disease. By focusing on designing, testing, and evaluating innovative approaches towards reducing health disparities and the burden of chronic disease, the Alliance optimizes health and race equity across the region. Because the social determinants of health and trauma-informed care are essential factors in the path towards achieving equity, the Alliance is committed to infusing all program activities with a race equity, health equity, and trauma-informed lens.

The Alliance implements 16 strategies within the St. Louis Promise Zone, an area that includes parts of North St. Louis City and North St. Louis County, designated in 2015 as part of a federal program intended to increase economic activity, improve educational outcomes, reduce serious and violent crime, invest in transformative development, and improve health and wellness in high-poverty urban, rural, and tribal communities. Through coordinated innovations, the Alliance aims to (1) improve and increase referrals to evidence-based prevention and self-management lifestyle change programs; (2) increase use of CHWs; (3) utilize the application of telehealth and mobile tools; and (4) increase identification of at-risk patients by community health centers. Strategies to achieve these goals include promoting team-based care, enhancing the role of pharmacists, coordinating referrals to nationally-recognized prevention and management programs, expanding data-driven quality improvement at community health centers, and advocating for health plan coverage.

This work is made possible by leveraging a well-established network of local, state, and national collaborators. The six core members of the Alliance Leadership Team are DHSS, St. Louis Integrated Health Network, St. Louis County Department of Public Health, St. Louis City Department of Health, MPCA, and the Missouri Pharmacy Association (MPA). Additional partners include the Prevention Research Center of St. Louis (PRC), Regional Diabetes Planning Group, the St. Louis Area Hospitals Diabetes Collaboration, the Gateway Region YMCA, the St. Louis Metro Market, and Fit and Food Connection.

Contracts have been established within the Promise Zone region between partners to increase patient referrals to diabetes prevention and management programs, blood pressure monitoring programs, and other nutrition and physical activity programs. One example of this involves health centers within the Promise Zone region referring patients with prediabetes to the Gateway Region YMCA for the YMCA's Diabetes Prevention Program (a CDC-Recognized National DPP). Because of this partnership, there has been an increase in program referrals as well as program enrollments at this site. Once the COVID-19 pandemic hit, the Gateway Region YMCA was able to successfully transition from in-person program delivery to virtual programming. Along with the St. Louis County Department of Public Health, DHSS assisted in collaborating with a technology platform vendor to continue providing program services for clients via a virtual platform.

Through this project, several pharmacies in the region are now referring clients to diabetes and other chronic disease programs and are providing education on management of medication.

A final highlight of the 1817 grant work involves the City of St. Louis and the St. Louis Metro Market collaboration. These two organizations are working together to bring healthy foods to the health centers in the region. For example, mobile food units are made accessible to clients with diabetes or hypertension. Fit and Food Connection then conducts in person and virtual grocery store tours as well as cooking classes for clients.

**b. National Diabetes Prevention Program (National DPP)**

Over 88 million Americans (one in three adults) have prediabetes. Over 80% of these individuals do not know they have it. Without action, many of these individuals will develop type 2 diabetes within five years, placing them at increased risk for heart attack, stroke, blindness, kidney failure, and lower limb amputations.<sup>9</sup>

The National DPP is an evidence-based lifestyle change program, developed by the CDC, for preventing or delaying the onset of type 2 diabetes. Research led by the National Institutes of Health has shown that individuals with prediabetes that take part in this CDC-recognized lifestyle change program decrease their risk of developing type 2 diabetes by 58% (71% for people over 60 years old).<sup>10</sup>

The number of CDC-recognized National DPP suppliers in Missouri has increased to 21. This includes both in-person and virtual delivery models. Due to the COVID-19 pandemic, many in-person programs successfully shifted their program delivery to either distance learning or virtual cohorts. The Diabetes and Heart Disease Program continues to bring together National DPP suppliers in an annual meeting and connects Lifestyle Coaches across the state in monthly calls to network and share best practices.

Since CMS began covering the National DPP in April 2018, four organizations within Missouri have achieved Medicare Diabetes Prevention Program (MDPP) supplier status. One of these organizations, HabitNu, has stepped into the role of an umbrella hub organization, creating a Missouri Network of National DPP's. With the umbrella network

in place, more National DPP suppliers are able to bill for MDPP services while receiving administrative and virtual technology support from HabitNu.

Missouri Medicaid coverage of the National DPP began September 1, 2020. The Diabetes and Heart Disease Program is working with MHD to support suppliers through the application process to be able to bill MHD and the Medicaid MCO's for National DPP services. The Missouri Network of National DPP's is also supporting this effort. A Medicaid Beneficiary Enrollment Project Grant from the National Association of Chronic Disease Directors (NACDD) was recently awarded to DHSS to increase enrollment and retention of Medicaid beneficiaries in the National DPP program.

Employer and insurer coverage of the National DPP is another important strategy to reduce diabetes rates and employer health care costs. The National DPP program allows payers to avoid the high cost of type 2 diabetes by delaying or preventing the onset of the disease. The program provides both direct financial benefits (in the form of lower health care costs) as well as indirect financial benefits (such as increased productivity and satisfaction among employees). One study of commercially insured adults found an \$8,015 increase in medical expenditures over a three year period for individuals with prediabetes who later developed diabetes compared to those that did not.<sup>11</sup>

The Diabetes and Heart Disease Program continues to work with Missouri employers to build awareness of the value of providing the National DPP as a covered benefit to employees. This includes partnering with the St. Louis Area Business Health Coalition and the Mid-America Coalition on Health Care. An opportunity also exists to provide the National DPP as a covered benefit to all Missouri state employees. Conversations with the Missouri Consolidated Health Care Plan are ongoing to make a case for employee coverage.

The "Take It Back" prediabetes awareness media campaign continues with a focus in the St. Louis and Kansas City markets. It includes a multi-platform campaign across broadcast TV, print, Facebook/Instagram, and YouTube. All together, the campaign has created 1,622,219 measurable impressions, with 291,050 video views, and 8,424 click throughs to the Missouri Reverse Your Risk website: [www.reverseyourrisk.com](http://www.reverseyourrisk.com).

**c. Diabetes Self-Management Education and Support (DSMES)/Diabetes Self-Management Training (DSMT)**

DSMES is an evidence-based model to provide education to individuals diagnosed with diabetes. Organizations offering DSMES services can apply for recognition by the American Diabetes Association (ADA) or for accreditation by the Association of Diabetes Care and Education Specialists (ADCES). DSMT (CMS uses the term training instead of education and support) services are eligible for reimbursement by Medicare, Medicaid, and many private health plans. The Diabetes and Heart Disease Program works to improve access to and participation in DSMES/DSMT programs in underserved areas. This is accomplished by supplying funding to complete the recognition/accreditation process, coordinating partners to increase program referrals, and providing training opportunities for program delivery staff. At the end of 2020, there were 72 DSMES/DSMT programs in Missouri, with 17,393 total patient encounters.

**d. Establishing Referral Systems for Clinic-to-Community Linkages**

The Community e-Connect Project, led by NACDD, establishes bi-directional e-referrals between health care clinics and lifestyle change programs. A pilot project has been established with Ozarks Health Center and Hickory County Health Department's National DPP program. Workflows and processes are currently being created.

The Diabetes and Heart Disease Program has worked with MPCA over the past several years to develop a tool called Data Repository and Visualization System (DRVS, pronounced Drives). This tool identifies patients with prediabetes based on their medical records. Once CHC's in Missouri identify these patients, they can more easily make an electronic referral to local National DPP programs.

Recently, the Diabetes and Heart Disease Program has begun to research two different social determinants of health referral platforms: findhelp and Unite Us. Findhelp is being utilized statewide by one of the region's Health Information Exchanges and Unite Us is prevalent with CHCs in the St. Louis area. The program will continue to examine ways to support one or both of these platforms in order to increase clinic-to-community e-referrals for both diabetes prevention and management programs as well as for social determinants of health needs.

**e. Chronic Disease Collaborative**

The Chronic Disease Collaborative was established with the support of MPCA to assist community health centers improve the quality of care of Missourians with chronic disease. The collaborative addresses identified measures with quality improvement efforts and supports team based care. This is accomplished through the use of Electronic Health Records (EHR) and the population health management tool, DRVS.

There are currently 15 out of Missouri's 29 CHCs participating in the Chronic Disease Collaborative. These clinics create and share quarterly Quality Improvement Plans with the Diabetes and Heart Disease Program to address at least one chronic disease measure. There are seven clinics currently focused on improving diabetes measures which include:

- Reducing uncontrolled HbA1c (>9%)
- Increasing the number of people with diabetes who have controlled blood pressure (<140-90)
- Increasing the number of people with diabetes who have measured and controlled cholesterol
- Increasing the number of people with diabetes who receive an annual eye exam
- Increasing the number of people with diabetes who have a foot exam
- Increasing the number of people with diabetes who have a kidney screening

Two of the CHCs currently participating in the Chronic Disease Collaborative have been identified specifically to increase referrals to the National DPP and DSMES programs. While the social determinants of health and COVID-19 pandemic have had an impact on referrals and program enrollment, virtual options are being explored and shared with CHCs for future program participation options.



**f. Pharmacist Integration**

The Pharmacy Services Expansion Project is an ongoing partnership with MPA to support pharmacy sites in achieving ADA recognition or ADCES accreditation to provide DSMES services. Since 2015, 95 pharmacy sites (includes both main sites and branch sites) have either begun or completed the accreditation process. MPA has created numerous trainings and provided valuable technical assistance to pharmacy sites throughout the process. One way they accomplish this is through trained DSMES Implementation Coaches. Experienced coaches team up with new sites in order to provide coaching and mentoring along the way. MPA has also developed processes for pharmacies to achieve DSMES accreditation without the need for a vendor/platform contract. This involved creating and updating patient facing education materials based on the ADCES Education Curriculum 3<sup>rd</sup> edition as well as charting templates for patient education sessions required for documentation.

MPA is also working to create processes for billing of DSMES/DSMT services. Several “Billing Boot Camp” webinars have been held and MPA is working with a consultant to research potential billing platforms, in order to make program services more sustainable.

Delivering DSMES and the National DPP via telehealth is another important aspect of MPA’s work, as the recent COVID-19 pandemic highlighted a need for virtual program options.

The Pharmacy Technician and Pharmacy Delivery Drivers Pilot is another MPA project that trains pharmacy staff as CHWs to obtain medication histories, assist medication reconciliation, reinforce key medication educational messages, and make DSMES referrals. So far in Missouri, over ten pharmacy techs have been trained as CHWs. Work is underway to develop patient data collection templates and spreadsheets for the pharmacies to utilize and share best practices for implementation of these services in community pharmacy settings.

CHW course development is also underway to develop a virtual curriculum for pharmacy technicians to become certified as CHWs. This dual role is uniquely qualified to provide patients with the resources they need to address social determinants of health and increase access to health care and related community resources. In many communities, the pharmacy is a patient’s main connection to their health care team through multiple monthly pharmacy visits. MPA is leading an Advisory Team that includes out-of-state experts, pharmacy teams with dual role pharmacy techs/CHWs, and UMKC faculty members. The team is currently drafting a pharmacy specific curriculum which will be reviewed, approved, and then housed on an electronic platform to be made available nationwide.

The Community Pharmacy Enhanced Services Network of Missouri (CPESN MO) consists of 126 pharmacies across the state. This network of pharmacies has grouped together to expand and enhance patient care and clinical services offered, share best practices, and increase access to health care for their communities. CPESN MO has supported pharmacist integration efforts through recruitment of high-achieving community pharmacies to participate and share best practices during research and development, implementation, and successful sustainability.



The Pharmacist-to-Pharmacist EHR Pilot creates an opportunity for clinic-based and community-based pharmacists to share medication records, intervention opportunities, and recommendations related to care through the shared EHR system or documented phone calls. The COVID-19 pandemic and staffing changes at the clinic level have led to program delays. However, this project will continue to be part of the Diabetes and Heart Disease Program's contract with MPA.

Finally, Trauma Awareness Training has been provided to participating pharmacies across Missouri. Training was led by Alive and Well, a Missouri-based nonprofit organization that focuses on activating communities to address the trauma experienced by their residents. MPA staff participated in a Train-the-Trainer program to provide regular ongoing training for pharmacists.

**g. Community Health Workers (CHWs)**

The CHW program began as a pilot project implemented in Kansas City, St. Louis, Springfield and Bootheel areas. It has since spread throughout Missouri. There are currently CHW certificate programs being offered in Kansas City, St. Louis, Sedalia, Moberly, Springfield, Neosho, Charleston, Cape Girardeau and Poplar Bluff. Once participants complete the course and receive their certificate, the individuals are placed in health care settings, local public health agencies, or community organizations to assist medical professionals with improving health outcomes for individuals. CHWs accomplish this through the provision of services such as: working with individuals to identify barriers that prevent compliance with treatment recommendations, assisting in linking community members to medical care and a range of social services, and serving as a liaison with clinical and administrative staff by providing information on cultural issues impacting health.

As CHWs complete the curriculum, there is a need for continuing education. Collaboratively with the Missouri Telehealth Network, a CHW ECHO (Extension of Community Healthcare Outcomes), a virtual learning network, was created. The CHW ECHO sessions are held the first and third Tuesday of the month for one hour. A panel of experts, comprised of a facilitator, community college instructor, behavioral health/CHW supervisor, nurse manager, community resource staff, health literacy staff, and a CHW are on each CHW ECHO. During each session, a short lecture is given, followed by a presentation of a difficult case. Attendees share information on resources that may be relevant to the case.

The Regional Kansas City CHW Collaborative, which includes Kansas City Metro Community College, health care providers, community organizations, as well as local, state and federal government, meets monthly to obtain feedback from individuals on the CHW project. Four subcommittees (Executive, Advocacy, Capacity and Sustainability) were developed to facilitate work of the Collaborative. To avoid duplication of effort, Diabetes and Heart Disease Program staff from DHSS participate in the monthly Collaborative meetings, as well as the Executive and Capacity Subcommittees. Lessons learned will improve the process for developing a statewide program.

The St. Louis Integrated Health Network has taken the lead for facilitating a CHW Collaborative within the St. Louis region. Meetings are held bi-monthly, with participation from local public health agencies, community health centers, hospitals, higher educational institutions, housing developments, community organizations, and statewide organizations. On behalf of the Collaborative, Integrated Health Network wrote and received funding from a private foundation to implement a work plan to further integrate CHWs into the St. Louis region.

A Statewide CHW Advisory Committee has also been established to provide recommendations to DHSS on CHW infrastructure needs. Membership includes state and local agencies, higher education institutions, health care systems, statewide organizations, CHW employers, and CHWs. The Advisory Committee has approved Core Competencies, Objectives, and a Code of Ethics recommendations. The Advisory Committee also approved a credentialing process for individual credentialing and a certification process for curriculum providers.

In order to become a credentialed CHW, an individual must complete the CHW certificate course at a certified curriculum provider, an application, and a background check. Upon becoming credentialed, CHWs must complete 20 hours of continuing education units every renewal period, with 6 of those hours being ethics.

#### **g. Diabetes in Schools**

Diabetes (type 1 or type 2) affects about 208,000 people (0.25%) of everyone younger than 20 years in the United States. In Missouri, school nurses report 2,988 students with diabetes (type 1 or type 2). This is 0.37% of the student population and is higher than the national rate.<sup>12</sup> The School Health Program focuses on professional development for school nurses and school staff to ensure that students with diabetes have the resources and support needed in school to manage their chronic health condition. According to the literature, managing diabetes at school is most effective when there is a partnership among students, parents, school nurses, health care providers, teachers, counselors, coaches, transportation providers, food service employees, and administrators. Support may include helping a student take medications, checking blood sugar levels, choosing healthy foods in the cafeteria, or being physically active.

The School Health Program continues to support Missouri school nurses by:

- Sponsoring webinars on diabetes management for school nurses
- Providing resources and professional development opportunities on diabetes management in the school setting at the annual Health Office Orientation for new staff
- Partnering with the Missouri State Board of Nursing to offer education on delegation of care in the school setting and to further explain Cades Law which includes legislative provisions affecting diabetes management in schools. A webinar (Trained Diabetes Personnel in Missouri Schools) is posted on the Missouri Healthy Schools website:  
<http://www.mohealthyschools.com/school-health-services.html>
- Developing a “Rapid E-Learning Module” for school nurses to explain the updates to the *Helping the Student with Diabetes Succeed: A Guide for School Personnel* developed by the National Diabetes Education Program:

<http://ccox.sites.truman.edu/2017/03/27/diabetes-e-learning-module-for-mo-school-nurses-6/>

- Posting CDC tools and information about diabetes on the school health website: <https://health.mo.gov/living/families/schoolhealth/disease.php>

### **Part III: Coordination and Partnerships**

MHD actively collaborates with the Diabetes and Heart Disease Program at DHSS, in many ways, across all levels of staffing. Areas of collaboration include epidemiologic and data analysis for the MHD population, MTM for diabetes, and coordination in the development and implementation of diabetes prevention services. Previously, MHD and DHSS jointly participated in an Affinity Work Group coordinated by CMS, with the goal of studying the practicality of and options for implementing the National DPP for MHD participants. This led to coverage of the National DPP by Missouri Medicaid. Currently, both organizations are participating in a Medicaid Beneficiary Enrollment Project, funded by the National

Association of Chronic Disease Directors (NACDD), to increase enrollment and retention of participants in the National DPP.

Additional collaboration exists to advance shared clinical and public health goals through MHD patient care and population health management opportunities, including: managed care plans' care management and disease management efforts; Health Home care coordination and management efforts; focusing on complex patients and coordination of activities with local community-based partners and services; exchanging data related to participants' care management and coordination; and evaluating processes for working more closely with providers and partners.

The Missouri Diabetes Council is a multi-partner collaboration that continues to focus efforts around diabetes across the state. The Council is composed of representatives of organizations that are involved in diabetes care, treatment, research or education; individuals with special expertise in areas of diabetes prevention and control; and individuals with diabetes or who have family members with diabetes. It is led by an Officer Group that consists of a Council Chair, Chair-Elect, Secretary, and Treasurer. The Missouri Diabetes Council typically meets twice per year – in the fall and spring. Each meeting is an opportunity to learn about various diabetes topics from invited presenters as well as to network with organizations across the state. The Council is currently working on transitioning to a non-profit 501(c)(3) organization that will have the capacity to apply for and receive funding to further diabetes efforts across the state.

The Missouri Hospital Association's Diabetes Shared Learning Network continues to meet twice annually in an effort to develop and implement a statewide system for shared learning and collaboration among community, public health and provider organizations to increase prevention and care coordination for people with diabetes. The Missouri Diabetes Council and the Diabetes Shared Learning Network communicate often to share and align goals, objectives, and activities.

**Part IV: Action Plan**

1. In order to continue to impact diabetes and prediabetes in the MHD population, MHD proposes the following:

- a. MHD plans to implement coverage for evidence-based, multicomponent weight reduction services supported by the USPSTF and the Children's Service Commission Subcommittee on Childhood Obesity in the fall of 2021. According to the USPSTF, evidence shows the utilization of intensive, multicomponent behavioral interventions in adults with obesity and elevated plasma glucose levels leads to clinically significant improvement in weight and a reduction of type 2 diabetes. Research also shows that the

harms of intensive, multicomponent behavioral interventions for adults are small to none, therefore USPSTF has concluded that these interventions have a moderate net benefit.<sup>13</sup>

MHD has collaborated with subject matter experts, including members of the Subcommittee on Childhood Obesity, on the development of its Intensive Behavioral Therapy program for the treatment and management of obesity. Obesity increases the risk of diabetes and higher healthcare expenditures. The availability of these benefits are anticipated to reduce the incidence of prediabetes and mitigate the morbidity related to diabetes and diabetes-related complications.

- b. In addition, MHD recently implemented coverage for Diabetes Prevention Program Services based on national guidelines. MHD worked collaboratively with the Diabetes and Heart Disease Program during the development and implementation process. This collaboration will continue, with a focus on increasing provider enrollment and participant utilization of these services.
- c. Furthermore, MHD has completed its evaluation of adding CHWs as a provider for defined high-risk populations. The results of the evaluation showed a 38% reduction in emergency department visits in individuals enrolled in PCHH that had access to a CHW as compared to an 8% reduction in individuals enrolled in a PCHH that did not have access to a CHW. The pilot also showed a 16.6% reduction in hospitalizations for individuals enrolled in a PCHH with access to a CHW as compared to a 6% decrease for individuals enrolled in a PCHH that did not have access to a CHW.

CHWs provide community-based care coordination and education to complement clinic and hospital care coordination. They assist individuals in the management of their diabetes and issues impacting their ability to manage their diabetes. CHWs improve diabetes management and follow-up, resulting in reduced morbidity and healthcare related costs. Examples of their activities include:

- Facilitating appointments (including providing transportation)
- Following up on appointments or other instructions by making home visits
- Communicating with primary care providers about barriers to self-management noted during home visits
- Assisting in obtaining social and/or community services for participants

- Assisting with post-hospitalization or emergency department visit follow-up by attempting to track down participants that primary care staff have been unable to reach
- Participating in primary care provider meetings when possible to help bridge the communication gap that may be present between patient and provider

The National Community Health Advisor Study<sup>14, 15</sup> includes seven basic roles for CHWs:

- Proving cultural mediation between communities and health and human services systems
- Providing informal counseling and social support
- Providing culturally appropriate health education
- Advocating for individual and community needs
- Ensuring that people obtain necessary services
- Building individual and community capacity
- Providing basic screening services

According to the CDC, “Many interventions that integrate CHW services into health care delivery systems are associated with reductions in chronic illnesses, better medication adherence,<sup>16</sup> increased patient involvement,<sup>17</sup> improvements in overall community health,<sup>18</sup> and reduced health care costs.<sup>19, 20</sup> One study of a CHW outreach program for underserved men found a return on investment ratio of more than \$2 for each dollar invested.<sup>19</sup> Another study found an annual cost savings using CHWs of around \$2,000 per Medicaid patient with diabetes.<sup>20</sup>

2. The Diabetes and Heart Disease Program’s current related work plans for the 1815 and 1817 Grants from CDC are broken into two Categories, Category A: Diabetes Management and Type 2 Diabetes Prevention Strategies and Category B: Cardiovascular Disease Prevention and Management Strategies. As can be readily seen, many activities cross-reference both categories.

### **CDC-RFA-DP18-1815PPHF18**

#### **Improving the Health of Americans Through Prevention and Management of Diabetes and HeartDisease and Stroke - Financed in part by 2018 Prevention and Public Health Funds (PPHF)**

##### **CATEGORY A: DIABETES MANAGEMENT AND TYPE 2 DIABETES PREVENTION STRATEGIES**

***Diabetes Management: Improve care and management of people with diabetes.***

- A.1 Improve access to and participation in ADA-recognized/AADE-accredited DSMES programs in underserved areas.
- A.2 Increase engagement of pharmacists in the provision of medication management or DSMES for people with diabetes.

***Type 2 Diabetes Prevention: Improve access to, participation in, and coverage for the National Diabetes Prevention Program (National DPP) lifestyle change program for people with prediabetes, particularly in underserved areas.***

- A.3 Assist health care organizations in implementing systems to identify people with prediabetes and refer them to CDC-recognized lifestyle change programs for type 2 diabetes prevention.
- A.4 Collaborate with payers and relevant public and private sector organizations within the state to expand availability of the National DPP as a covered benefit for one or more of the following groups: Medicaid beneficiaries; state/public employees; employees of private sector organizations.
- A.5 Implement strategies to increase enrollment in CDC-recognized lifestyle change programs.

***Diabetes Management and/or Type 2 Diabetes Prevention.***

- A.6 Develop a statewide infrastructure to promote long-term sustainability/reimbursement for Community Health Workers (CHWs) as a means to establish or expand their use in a) CDC recognized lifestyle change programs for type 2 diabetes prevention and/or b) ADA recognized/AADE-accredited DSMES programs for diabetes management.

**CATEGORY B: CARDIOVASCULAR DISEASE PREVENTION  
AND MANAGEMENT STRATEGIES**

***Track and Monitor Clinical Measures shown to improve healthcare quality and identify patients with hypertension.***

- B.1 Promote the adoption of evidence-based quality measurement at the provider level (e.g., use dashboard measures to monitor healthcare disparities and implement activities to eliminate healthcare disparities).

***Implement Team-Based Care for patients with high blood pressure and high blood cholesterol.***

- B.2 Support engagement of non-physician team members (e.g., nurses, nurse practitioners, pharmacists, nutritionists, physical therapists, social workers) in hypertension and cholesterol management in clinical settings.

***Link Community Resources and Clinical Services that support systematic referrals, self-management, and lifestyle change for patients with high blood pressure and high blood cholesterol.***

- B.3 Develop a statewide infrastructure to promote sustainability for CHWs to promote management of hypertension and high blood cholesterol.
- B.4 Facilitate use of self-measured blood pressure monitoring (SMBP) with clinical support among adults with hypertension.
- B.5 Implement systems to facilitate systematic referral of adults with hypertension and/or high blood cholesterol to community programs/resources.

**CDC-RFA-DP18-1817**

**Diabetes and Heart Disease & Stroke Prevention Programs - Innovative State and Local Public Health Strategies to Prevent and Manage Diabetes and Heart Disease and Stroke**



## CATEGORY A: DIABETES MANAGEMENT AND TYPE 2 DIABETES PREVENTION STRATEGIES

***Type 2 Diabetes Prevention: Improve access to and participation and retention in the National Diabetes Prevention Program (National DPP) lifestyle change program for people with prediabetes.***

- A.1. Implement systems to facilitate bi-directional e-referral between healthcare systems and CDC-recognized lifestyle change programs for type 2 diabetes prevention.
- A.2. Support organizations in increasing enrollment in existing CDC-recognized lifestyle change programs or establishing and sustaining new CDC recognized lifestyle change programs in underserved areas.
- A.3. Implement tailored communication/messaging to reach underserved populations at greatest risk for type 2 diabetes to increase awareness of prediabetes and the National DPP.
- A.4. Support advanced training for lifestyle coaches working at CDC-recognized lifestyle change programs to strengthen skills needed to engage and retain participants.

***Diabetes Management and/or Type 2 Diabetes Prevention.***

- A.5. Explore and test innovative ways to eliminate barriers to participation and retention in CDC-recognized lifestyle change programs for type 2 diabetes prevention and/or ADA-recognized/AADE-accredited diabetes self-management education and support (DSMES\*) programs for diabetes management among high burden populations.
- A.6. Work with health care systems to establish or expand use of telehealth technology
- A.7. to increase access to one or more of the following programs/services in underserved areas:
  - 1. ADA-recognized/AADE-accredited DSMES\* programs for diabetes management
  - 2. CDC-recognized lifestyle change programs for type 2 diabetes prevention
  - 3. Diabetic retinopathy screening (using a non-mydratic retinal camera at the screening site connected to a central reading center through telemedicine).

***Diabetes Management: Improve care and management of people with diabetes.***

- A.8. Increase adoption and use of clinical systems and care practices to improve health outcomes for people with diabetes (e.g., HIT/EHRs, clinical decision support tools, learning collaboratives to improve quality of care).
- A.9. Increase use of clinical decision support within the EHR to promote early detection of chronic kidney disease (CKD) in people with diabetes.

*\*These programs meet national quality standards and are more likely to be sustained long-term due to reimbursement by Medicare, many private insurance plans, and some State Medicaid Agencies.*



## CATEGORY B: CARDIOVASCULAR DISEASE PREVENTION AND MANAGEMENT STRATEGIES

***Track and Monitor Clinical Measures shown to improve healthcare quality and identify patients with high blood pressure and high blood cholesterol.***

- B.1. Increase identification of patients with undiagnosed hypertension using EHRs/HIT.
- B.2. Explore and test innovative ways to promote the adoption of evidence-based quality measurement at the provider level (e.g., use dashboard measures to monitor health outcomes among high burden subpopulations and implement related activities).

***Implement Team-Based Care for patients with high blood pressure and high blood cholesterol.***

- B.3. Explore and test innovative ways to engage non-physician team members (e.g., nurses, nurse practitioners, pharmacists, nutritionists, physical therapists, social workers) in hypertension and cholesterol management in clinical settings.
- B.4. Promote the adoption of MTM between community pharmacists and physicians for the purpose of managing high blood pressure, high blood cholesterol, and lifestyle modification.

***Link Community Resources and Clinical Services that support bi-directional referrals, self-management, and lifestyle change for patients with high blood pressure, high blood cholesterol, and/or who have had a cardiac event.***

- B.5. Facilitate engagement of patient navigators/community health workers in hypertension and cholesterol management in clinical and community settings.
- B.6. Implement systems to facilitate bi-directional referral between community programs/resources and healthcare systems (e.g. using EHRs, 800 numbers, 211 referral systems, etc.).
- B.7. Explore and test innovative ways to expand use of telehealth including mobile health technology (e.g., smart apps, text messages) to promote management of hypertension and high blood cholesterol.
- B.8. Explore and test innovative ways to enhance referral, participation, and adherence in cardiac rehabilitation programs in traditional and community settings, including home-based settings.

### Part V: Budget Blueprint

In order to implement the proposed strategies, MHD and DHSS' Diabetes and Heart Disease Program anticipates pursuit of the following policy changes and budget considerations:

#### 1. Evidence-based multi-component weight reduction programs

“Projections for Missouri find that if the current trend in childhood obesity continues, Missouri will spend \$12 billion annually on obesity-related healthcare costs by 2030.”<sup>18</sup>  
 “States should have interest in obesity treatment modalities, as each obese Medicaid beneficiary costs, on average, \$1,021 more per year than normal weight beneficiaries.”<sup>20</sup>  
 MHD completed a cost-impact analysis of the provision of these services to a defined

population by a defined set of providers that would meet MHD established requirements. The cost-impact analysis showed that there is potential for savings with the implementation of these services. Coverage for Biopsychosocial Treatment of Obesity Services were implemented September 1, 2021.

## **2. Diabetes Prevention and Management Programs**

As mentioned, diabetes is a costly disease. Research shows that medical expenses for individuals diagnosed with diabetes are estimated to be about 2.3 times higher than for individuals without diabetes, demonstrating approximately “one in four health care dollars is spent on people diagnosed with diabetes.”<sup>9</sup> Government insurance programs (including Medicare, Medicaid and the military) cover the bulk of the cost of diabetes care in the U.S. (67.3%), along with private insurance (30.7%), and the uninsured (2%).<sup>21</sup>

MHD previously completed a cost-impact analysis of the provision of National DPP services to a defined population, by a defined set of providers, which would meet CDC established requirements. The cost-impact analysis showed a potential for savings with implementation of services. In addition, information provided by the CMS Office of the Actuary certifies that an expansion of the National DPP in Medicare would not result in an increase in spending.<sup>22</sup> Based on this analysis, MHD implemented coverage for National DPP services September, 1, 2020.

The Diabetes and Heart Disease Program will continue to support National DPP, DSMES and other evidence-based lifestyle change programs by collaborating with payers and relevant public and private sector organizations within the state to expand availability of these programs as a covered benefit for Medicare, Medicaid, state/public employees, and employees of private sector organizations. While Medicare and Medicaid coverage exists, more work needs to be done to increase awareness of the benefit, increase program referrals and enrollments, and increase program retention. Future work will continue to encourage the Missouri Consolidated Health Care Plan, and other Missouri employers, to provide coverage for their insured populations. Evidence has proven coverage of the National DPP to be cost effective<sup>23</sup> with additional evidence building all the time.

## **3. Addition of Community Health Workers (CHWs) as Providers**

Based on pilot project findings, the annual estimated cost savings for individuals participating in the MHD CHW program will be ~\$1,476. This cost savings can be realized within six months of a participant beginning the program.

Regarding future planning, the addition of CHWs to MHD programs (such as the PCHH Program for a defined high risk population) would require the activation of certain Current Procedural Terminology (CPT) codes through which these services would be billed. Activating these CPT codes would impact the MHD budget and would require additional appropriation authority. In addition to activating the CPT codes, MHD will need to define eligible participant populations, eligible provider credentials, identify which practices can add them, and fully evaluate the cost model.

The Diabetes and Heart Disease Program will continue to convene key stakeholders quarterly to support CHW work and advocate to establish policies for reimbursement by third-party payers through a State Plan Amendment. Funding from the 1815 and 1817 cooperative agreements will cover training expenses (including books and supplies) for approximately 130 CHWs per year through spring 2022.

A final, but important, consideration concerning diabetes is the impact of COVID-19. While there is not enough data to show that individuals with diabetes are more likely to contract COVID-19, they are more likely to develop serious complications if they do contract the virus. Better management of one's diabetes can help individuals from getting seriously ill.<sup>24</sup> As a result of these connections, it is more important than ever to improve diabetes prevention and management in Missouri.

## ENDNOTES

- <sup>1</sup> Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System. Available at: <https://www.cdc.gov/brfss/index.html>
- <sup>2</sup> Centers for Disease Control and Prevention. National Health and Nutrition Examination Survey. Available at: <https://www.cdc.gov/nchs/nhanes/index.htm>
- <sup>3</sup> American Diabetes Association. Economic Costs of Diabetes in the U.S. in 2017. Available at: <https://care.diabetesjournals.org/content/41/5/917.supplemental>
- <sup>4</sup> American Diabetes Association. Cost-Effectiveness of Interventions to Manage Diabetes: Has the Evidence Changed Since 2008? Available at: <https://care.diabetesjournals.org/content/43/7/1557.long>
- <sup>5</sup> American Diabetes Association. Cost-Effectiveness of Diabetes Prevention Interventions Targeting High-risk Individuals and Whole Populations: A Systematic Review. Available at: <https://care.diabetesjournals.org/content/43/7/1593>
- <sup>6</sup> Healthy People 2030, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Retrieved 12/14/21, from <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>
- <sup>7</sup> Stratton, et al. BMJ 2000; Hennekens CH. Circulation 1998; 97:1095-1102; Rich-Edwards JW, et al. N Engl J Med 1995; 332:1758-1766; Bassuk SS, Manson JE. J Appl Physiol 2005; 99: 1193-1204
- <sup>8</sup> Definition used with permission of Center for Health Care Strategies, Inc., Princeton, New Jersey, “Case Management in Managed Care for People with Developmental Disabilities: Models, Costs and Outcomes, January, 1999”
- <sup>9</sup> Centers for Disease Control and Prevention. About Prediabetes & Type 2 Diabetes. Available at: <https://www.cdc.gov/diabetes/prevention/prediabetes-type2/index.html>
- <sup>10</sup> Centers for Disease Control and Prevention. Research-Based Prevention Program. Available at: <https://www.cdc.gov/diabetes/prevention/prediabetes-type2/preventing.html>
- <sup>11</sup> Kahn, T., Tsipras, S., Wozniak, G., Medical Care Expenditures for Individuals with Prediabetes, Population Health Management, 2017.
- <sup>12</sup> School Health Online Reporting Service 2017
- <sup>13</sup> U.S. Preventive Services Task Force. (2018). Weight loss to prevent obesity-related morbidity and mortality in adults: Behavioral interventions. Retrieved from <https://www.uspreventiveservicestaskforce.org/uspstf/document/RecommendationStatementFinal/obesity-in-adults-interventions>
- <sup>14</sup> Community Health Workers: Expanding the Scope of the Health Care Delivery System. Kristine Goodwin and Laura Tobler, 2008
- <sup>15</sup> Rosenthal et al., The Final Report of the National Community Health Advisor Study: Weaving the Future (Tucson: University of Arizona, 1998)
- <sup>16</sup> Sjöström, C. D., Lissner, L., Wedel, H. and Sjöström, L. (1999), Reduction in Incidence of Diabetes, Hypertension and Lipid Disturbances after Intentional Weight Loss Induced by Bariatric Surgery: the SOS Intervention Study. Obesity Research, 7: 477–484. doi: 10.1002/j.1550-8528.1999.tb00436.x
- <sup>17</sup> Buchwald, H. MD, PhD; Avidor, Y. MD; Braunwald, E. MD, et al. (2004) Bariatric Surgery: A Systematic Review and Meta-analysis. JAMA. 2004; 292(14):1724-1737. doi:10.1001/jama.292.14.1724
- <sup>18</sup> Community Health Workers: Expanding the Scope of the Health Care Delivery System. Kristine Goodwin and Laura Tobler, 2008
- <sup>19</sup> Robert Wood Johnson Foundation. Bending the Obesity Cost Curve in Missouri. Washington, DC: Trust for America’s Health, 2012.
- <sup>20</sup> Finkelstein EA, Trogon JG, Cohen JW, Dietz W. Annual medical spending attributable to obesity: Payer- and service-specific estimates. Health Affairs. September/October 2009; 28(5):w822-w831. doi: 10.1377/hlthaff.28.5.w822.
- <sup>21</sup> American Diabetes Association. The Staggering Costs of Diabetes. Available at: <https://www.diabetes.org/resources/statistics/cost-diabetes>
- <sup>22</sup> Certification of Medicare Diabetes Prevention Program. Paul Spitalnic, ASA, MAAA Chief Actuary, Centers for Medicare & Medicaid Services, 2016. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/ActuarialStudies/Downloads/Diabetes-Prevention-Certification-2016-03-14.pdf>
- <sup>23</sup> The Diabetes Prevention Program (Dpp) Research Group. The Diabetes Prevention Program (DPP) – Description of Lifestyle Intervention. doi: 10.2337/diacare.25.12.2165 Diabetes Care December 2002 vol. 25 no. 12 2165-2171
- <sup>24</sup> American Diabetes Association. How COVID-19 Impacts People with Diabetes. Available at: <https://www.diabetes.org/coronavirus-covid-19/how-coronavirus-impacts-people-with-diabetes>